

INFRARED SPECTROSCOPIC MEASUREMENT AT SYOWA STATION (ABSTRACT)

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Solar infrared spectroscopic measurements are planned for the 32th Japanese Antarctic Research Expedition 1990–1992 at Syowa Station. The observations will be made by using a 10 cm telescope and a 1.5 m double pass monochromator. The instrument resolution is 0.09cm^{-1} at 3000cm^{-1} . Although observations of trace gases in Antarctica have increased in recent years, many of them have been carried out in springtime to study the ozone hole. These observations will be carried out through out the year, and seasonal variation will be deduced. The vertical column abundance of atmospheric HCl, HF, N_2O and OCS will be deduced. HCl is important as a reservoir of ClO_x . In Antarctica HCl forms Cl_2 on the surface of the polar stratospheric clouds as a preliminary step in the development of the ozone hole. There are few measurements after September although the change before that is intensively interesting. HF and N_2O are poor reactive species, so these are good tracers of atmospheric transportation. OCS, one of the sources of sulfuric acid, has not been measured in Antarctica so far.

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